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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,058	04/25/2001	David G. Carlson	ROC9-2000-0202-US1	8904

7590 11/24/2004
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EXAMINER

LE, VIET Q

ART UNIT	PAPER NUMBER
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2667

DATE MAILED: 11/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/843,058	Applicant(s) CARLSON ET AL.	
	Examiner Viet Q. Le	Art Unit 2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-67 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-21, 32-42, 55-67 is/are allowed.
- 6) ☒ Claim(s) 1-3, 8, 22-24, 29 and 43-46 is/are rejected.
- 7) ☒ Claim(s) 4-7, 9, 10, 25-28, 30, 31 and 47-54 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date April 25, 2001.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because there are no figure numbers 1 and 2 labeled on the drawing sheets submitted on April 25, 2001. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The substituted drawings submitted on July 11, 2001 are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Figures 1-3 are not correctly described in

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the specification. Figures 4-6 are not even mentioned anywhere in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 1, 2, 3, 8, 22-24, 29, 43-46 are rejected under 35 U.S.C. 102(e) as being anticipated by Ming-Chit Tam (U.S. 6,622,172), herein after referred to as Tam.

Regarding claims 1, 22 Tam disclosed an apparatus and method for improving transmission control protocol performance, comprising of: one processor (See Fig. 2, block 18; See column 11, lines 44-67; See column 12, lines 1-25), a memory coupled to the processor (See Fig. 2, block 20; See column 11, lines 44-67; See column 12, lines 1-25;), and an acknowledgement adjuster, monitoring network transmission traffic (See column 11, lines 44-67; See column 12, lines 1-25) and adjusting use of delayed acknowledgement (ACK) based on the network transmission traffic (See Fig. 2, block 16; See column 11, lines 44-67; See column 12, lines 1-25).

Regarding claim 2, 23 Tam disclosed the acknowledgement adjuster and the method, monitoring whether an ACK was not sent during a pre-determined time period after a first packet was received (See column 10, lines 18-29) and sending an ACK after each received packet if an ACK was not sent during a predetermined period (See column 10, lines 21-25).

Regarding claim 3, 24 Tam disclosed the ACK adjuster and method monitoring network transmission traffic, packet receipt frequency and adjusting the use of delayed ACK, based on packet receipt frequency (See column 10, lines 21-30; See column 12, lines 26-28).

Regarding claim 8, Tam disclosed an ACK adjuster (See column 11, lines 44-67; See column 12, lines 1-25), determining if the ACK adjuster is to send the delayed ACK after receiving packets (See column 10, lines 18-29), and if the ACK adjuster is to send the delayed ACK after receiving packets, send a delayed ACK after receiving at least 1

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packet or if the ACK adjuster is to not send delayed ACK after receiving packets; send an ACK after each received packet (See column 10, lines 18-29).

Regarding claim 29, Tam disclosed a method adjusting the use of delayed ACK based on the traffic comprising of: upon receiving the current packet, determining if the use delayed ACK is enabled, and if the use of delayed ACK is enabled; sending a delayed ACK after receiving at least one packet; or if the use of delayed ACK is not enabled; sending an ACK after each received packet (See column 10, lines 18-29).

Regarding claim 43-46, Tam disclosed a program product, embodying a program of machine readable instructions executable by a computer system, comprising of: an acknowledgement adjuster program, monitoring traffic on a TCP connection and adjusting the use of delayed ACK accordingly and a signal bearing media (See column 8, lines 62-65; see column 26, lines 27-33; see column 27, lines 4-10).

Allowable Subject Matter

5. Claims 4-7, 9-10, 25-28, 30-31, 47-54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 11-21, 32-42 and 55-67 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The reason for allowing claims 11-21 are that the examiner could not find any previous arts that disclose an apparatus for improving transmission control protocol performance that has capabilities of monitoring delays between the last ACK time of the first data packet and receipt of a subsequent data packet, the last ACK time of the first data packet and a response data packet sent in reply to a first data packet, and receipt of a first data packet and the ACK of that first data packet; and adjusting the use of delayed ACK based on these time delays comparing to a predetermined time period accordingly.

The reason for allowing claims 32-42 are that the examiner could not find any previous arts that disclose method for improving transmission control protocol performance comprising steps of: monitoring time delays and adjusting the use of delayed ACK accordingly to these time delays comparing to a predetermined time period.

The reason for allowing claims 55-67 are that the examiner could not find any previous arts that disclose a program product, embodying a program comprising of an acknowledgement adjuster program monitoring delays between: the last ACK time of the first data packet and receipt of a subsequent data packet, the last ACK time of the first data packet and a response data packet sent in reply to a first data packet, and receipt of a first data packet and the ACK of that first data packet; and adjusting the use of delayed ACK based on these time delays comparing to a predetermined time period accordingly.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Mogul, Jeffrey Clifford (U.S. 6,560,243), system and method for receiver based allocation of network bandwidth.

b) Brooks et al. (U.S. 6,038,606), method and apparatus for scheduling packet acknowledgements.

c) Takamoto et al. (U.S. 6,449,631), method and apparatus for transmitting data in a network wherein acknowledgment signals are transmitted to acknowledge receipt of data.

d) Hayakawa, Fumiyasu (U.S. 5,042,029), congestion control method and apparatus for end-to-end packet communication.

e) Ywoskus et al. (U.S. 5,528,605), delayed acknowledgement in an asymmetric timer based LAN communication protocol.

f) Ghani et al. (U.S. 6,215,769) enhanced acknowledgement pacing device and method for TCP connections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Viet Q. Le whose telephone number is 571-272-2246.


The examiner can normally be reached on 8 AM -5 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

vi


RICKY NGO
PRIMARY EXAMINER
11/14/04